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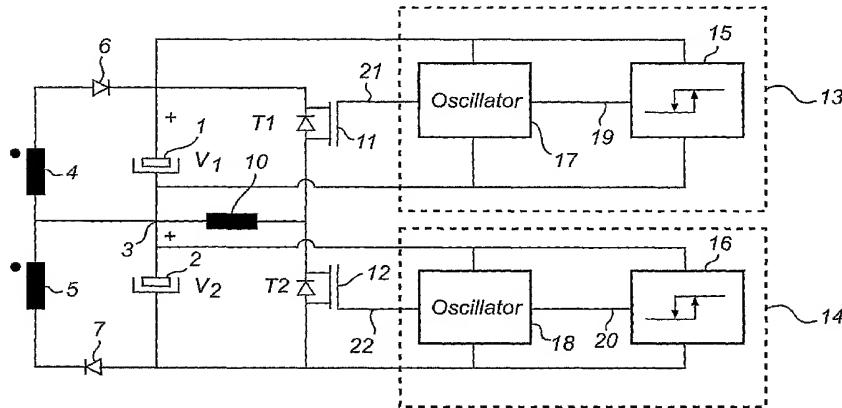
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(54) Title: SWITCH MODE POWER SUPPLY WITH OUTPUT VOLTAGE EQUALIZER



(57) Abstract: A switch mode power supply for feeding a single ended class D amplifier, having, two voltage sources (1, 2) is disclosed. The power supply comprises a voltage equalizer circuit including a coil (10) having a first terminal connected to said common point (3), a first switch (11) connected between a second terminal of the coil (10) and the positive side of the first source (1), a second switch (12) connected between said second terminal of the coil (1) and the negative side of the second source (2), and control circuitry (13, 14) for determining when the voltage ( $v_1, v_2$ ) of one of the voltage sources (1 or 2) exceeds a predetermined threshold value ( $v_{\text{thresh},\text{ON}}$ ), and, in response to such a determination, periodically operate the switch (11 or 12) associated with said one voltage source ON and OFF, thereby redistributing energy from said one voltage source (1 or 2) to the other voltage source (2 or 1). The inventive voltage equalizer thus acts as a switch mode converter, redistributing energy from one voltage source to the other, thereby ensuring that the output voltages of both sources are essentially equal. Further, the voltage equalizer requires very few components, and is thus simple to implement. As the two switches only need to handle the excess of power they can be relatively small and cost efficient.

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